ARCADIS
Infrastructure · Water · Environment · Buildings

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Transmittal Letter

To:
Keith M. Krawczyk
Project Coordinator
MDEQ – Remediation Division
Superfund Section
Constitution Hall
P.O. Box 30426
Lansing, MI 48909-7926

Copies:
Garry Griffith, P.E., Georgia-Pacific LLC
(transmitted via e-mail)
Michael Berkoff, USEPA Region 5
Steve Taplin, Terra Contracting, LLC
(transmitted via e-mail)
Dawn Penniman, P.E., ARCADIS

From:
Pat M. McGuire

Date:
September 18, 2012

Subject:
King Highway Landfill OU – 2012 3rd Quarter Landfill Inspection Report

ARCADIS Project No.:
B0064583.0003.00907

We are sending you:

☒ **Enclosed** ☐ **Under Separate Cover Via _____ the Following Items:**

☐ Shop Drawings ☐ Plans ☐ Specifications ☐ Change Order
☐ Prints ☐ Samples ☐ Copy of Letter ☒ Reports
☐ Other:

Copies	Description	Action*
1	2012 3rd Quarter Landfill Inspection Report	FR

Action*
☐ A Approved ☐ CR Correct and Resubmit ☐ Resubmit _____ Copies
☐ AN Approved As Noted ☐ F File ☐ Return _____ Copies
☐ AS As Requested ☐ FA For Approval ☐ Review and Comment
☒ Other: FR – For Your Review

Mailing Method
☐ U.S. Postal Service 1st Class ☐ Courier/Hand Delivery ☐ FedEx Priority Overnight ☐ FedEx 2-Day Delivery
☐ Certified/Registered Mail ☐ United Parcel Service (UPS) ☒ FedEx Standard Overnight ☐ FedEx Economy
☐ Other:

Comments: Enclosed is the 2012 3rd quarter landfill inspection report. Please feel free to contact me at 315.671.9233 or Pat.McGuire@arcadis-us.com if you have any questions.

KING HIGHWAY LANDFILL
POST-REMEDIATION INSPECTION FORM

SOP M - Post-Remediation Inspection Procedures

Inspection Date: 9/7/2012 Weather Conditions: Sunny, 70's, light wind

Inspectors: M. Kohagen

Time Arrived: 12:00 (AM (PM) Time Departed: 16:00 (AM (PM)

Inspection Items	Condition Satisfactory		Response	Comments/Proposed Action Items	Photo Nos.
	Yes	No			
Cover System					
Settlement	X		Strip the soil, place and compact suitable soils within the depression, and replace excavated soil. Once the proper slope is restored, reseed the disturbed area	The area of settlement identifed during the 2nd quarter landfill inspection, south of the diversion berm, has been repaired through the removal of the existing final cover soil material, repair of the breaches in the geomembrane liner, and the application of a 2-foot layer of general fill and a 6-inch layer of topsoil as identified in the June 27, 2012 *Stressed Vegetation Sampling Results and Work Plan.*	1
Water Ponding	X		Strip the soil, place and compact suitable soils within the depression, and replace excavated soil. Once the proper slope is restored, reseed the disturbed area	During the week of August 27, 2012 the low area in the drainage swale located along the north access road were water ponding was previously observed was repaired. Topsoil was placed in this low area, the area regraded to eliminate future ponding, and seed and mulch applied to the topsoil to facilitate vegetative growith.	3
Soil Erosion	X		Regrade or place additional appropriate materials in affected areas and promptly reseed to establish vegetative growth		
Slope Movement/ Failure	X		Regrade or place additional appropriate materials in affected areas and promptly reseed to establish vegetative growth		
Exposed FML	X		Regrade or place additional appropriate materials in affected areas and promptly reseed to establish vegetative growth		
Undesirable Growth (Rooty Trees or Shrubs)	X		Regrade or place additional appropriate materials in affected areas and promptly reseed to establish vegetative growth		
Protruding Objects	X		Regrade or place additional appropriate materials in affected areas and promptly reseed to establish vegetative growth		
Burrowing Animals		X	Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth	One burrowing animal hole was identified on the north side of the landfill along the sheetpile wall. The hole was filled in with topsoil and will be monitored.	
Cracks	X		Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth		
Disturbance or Loss of Vegetation	X		Reseed areas of lost vegetation. Do not allow vegetation (except for grasses) to establish on the cover	Four areas identified as having stressed vegetation were reworked during the week of August 27, 2012. Additional topsoil, seed, and mulch were added to these areas to facilitate vegetative growth in accordance with the June 27, 2012 *Stressed Vegetation Sampling Results and Work Plan*. The areas will be monitored for vegetative growth.	2
Sedimentation Basin and Drainage Outlet					
Erosion	X		Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth		
Siltation	X		Remove excessive sediment buildup that has caused filling of the basin bottom to elevations above the design elevation (e.g., design elevation near outlet structure is 764.5 feet)		
Debris Buildup	X		Remove debris washed out materials		
Condition of Discharge Structures & Inlets	X		Remove any debris or obstructions/ blockages. Indicate corrective measures for damaged inlet or discharge structures		
Inappropriate Vegetation	X		Only grass will be allowed to establish on the cover. Roots of trees and shrubs will be cut out. Inspect the area every 2 weeks following removal to ensure that root systems have not returned		
Ditches and Diversion Berms					
Siltation	X		Remove excessive sediment buildup		

Inspection Items	Condition Satisfactory		Response	Comments/Proposed Action Items	Photo Nos.
	Yes	No			
Debris Buildup	X		Remove debris washed out materials		
Disturbed Vegetation	X		Reseed areas of lost vegetation	During the week of August 27, 2012, four areas of stressed vegetation were reworked, had a layer of topsoil applied to the areas, and were seeded and mulched to facilitate vegetative growth.	3
Erosion	X		Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth		
Culverts					
Siltation	X		Remove excessive sediment buildup		
Clogging	X		Remove any debris or obstructions/ blockages obstructing flow through the culvert		
Riprap, Sheet pile Wall, and Erosion Control Blankets					
Instability or Damage	X		Regrade or place additional appropriate materials (e.g., riprap, topsoil) in affected areas and promptly reseed where necessary to establish vegetative growth. Replace erosion control blankets if damaged. Note damage to sheet pile wall		
Sheetpile Wall					
Soil Erosion, Subsidence, or Cracking Behind Wall	X		Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth		
Wall Joints	X		Note any gaps in the wall joints and any material migration from behind the wall		
Overall Wall Stability	X		Note whether the top of the wall has been displaced outward. Note any holes in the wall caused by corrosion		
Surface Water and Pore Water Collection System					
Clogging of Outlets	X		Remove any debris or obstructions/ blockages obstructing flow through the pipe	During the week of August 27, 2012, the south pore water outlet pipe was located through the use of hydro-excavation equipment; and the outlet pipe was extended to the western riprap apron. The south pore water outlet pipe will continued to be monitored during future quarterly landfill inspections.	4
Evidence of Settlement/ Exposed Materials	X		Regrade or place additional appropriate materials in the affected areas and promptly reseed to establish vegetative growth		
Condition of Inlet/Outlets	X		Replace or repair pipes that have been damaged such that flow is obstructed		
Landfill Gas Management System					
Condition of Exterior Vent Pipe Components	X		Replace broken/damage vent pipes. Exposure of geomembrane pipe boot above the ground surface should be noted, as well as any damage to the pipe boot		
Condition of Exterior Gas Probe Components	X		Replace broken/damage gas probes or components		
Evidence of Differential Settlement[1]	X		Replace vent pipes or gas probes with severe leans or where underground components are observed above ground		
Operation of Wind Turbine Ventilators	X		Repair or replace wind turbine ventilators that are not turning or have been broken/damaged		
Groundwater Monitoring System					
Condition of Surface Seal and Pipe Boot	X		Replace or repair the concrete surface seal as necessary. Exposure of geomembrane pipe boot above the ground surface should be noted, as well as any damage to the pipe boot		
Condition of Protective Casing	X		Replace damaged protective casings		
Condition of Cap	X		Replace damaged caps		

KING HIGHWAY LANDFILL
POST-REMEDIATION INSPECTION FORM

SOP M - Post-Remediation Inspection Procedures

Inspection Items	Condition Satisfactory		Response	Comments/Proposed Action Items	Photo Nos.
	Yes	No			
Condition of Locks	X		Replace locks where missing or damaged		
Integrity of Exterior Well Components	X		Replace broken/damaged monitoring wells		
Site Access Roads					
Condition of Roadways	X		Regrade or place additional appropriate materials (e.g., gravel) in depressions to maintain proper drainage and even roadway surface		
Conditions of Access Gates	X		Replace or repair damaged gates. Reattach mesh fencing that has pulled away from the top rail		
Security Systems					
Condition of Fencing		X	Replace or repair damaged fencing. Removed trees or branches that have fallen onto fencing. Clear vegetation away from fencing. Reattach mesh fencing that has pulled away from the top rail	Barbwire fence was observed to be missing from an approximate 20 foot section of the perimeter fence in the northwest corner of the landfill. The barbed wire was removed during work associated the City sanitary project. The fence will be repaired and a gate installed once the City sanitary project is completed in 2012. Additionally, vegetative growth along the feneline will be cleared in the coming months.	
Condition of Signs	X		Replace or repair missing or damaged signs to eliminate trespassing		
Condition of Locks	X		Replace missing or damaged locks		

Notes:
1. Evidence of differential settlement includes heaving around vent pipes and/or gas monitoring probes, leaning vent pipes and/or gas monitoring probes, and underground components of vent pipes and/or gas probes exposed above ground surface.

Additional Remarks:

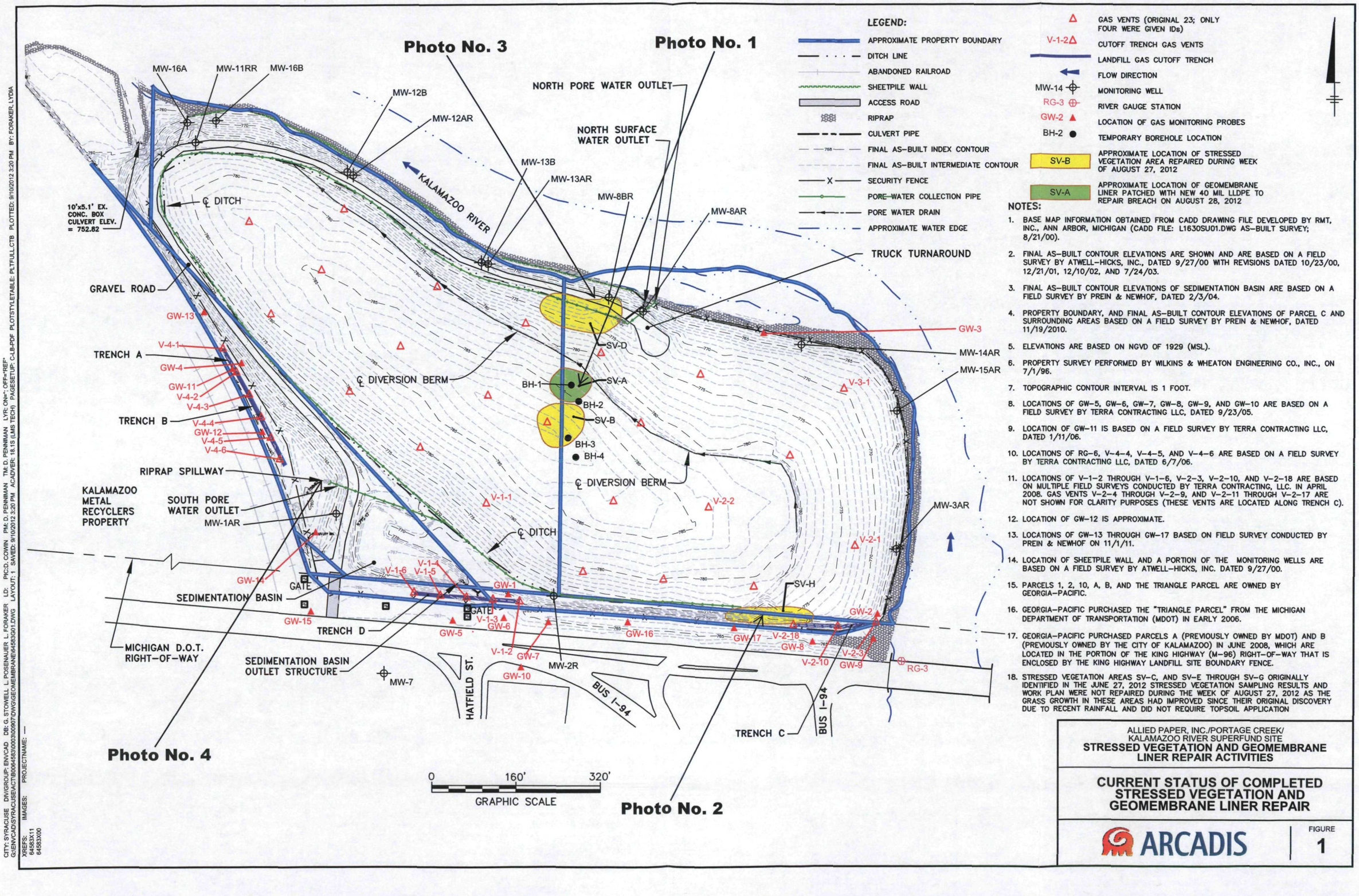
Several of the areas identified as having stressed vegetation last quarter were green with vegetation this inspection.

Photo No. 1: Looking north at the patch being extrusion welded to the existing liner to repair the breaches in the liner.

Photo No. 2: Looking east at Terra Contracting, LLC (Terra) preparing the area of stressed vegetation for re-seeding.

Photo No. 3: Looking north at Terra preparing the low-spot in the drainage swale for seed and mulch by placing additional topsoil in the area.

Photo No. 4: Looking east at the southern pore water outlet pipe that has been extended into the riprap spillway.



LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- DITCH LINE
- ABANDONED RAILROAD
- SHEETPILE WALL
- ACCESS ROAD
- RIPRAP
- CULVERT PIPE
- FINAL AS-BUILT INDEX CONTOUR
- FINAL AS-BUILT INTERMEDIATE CONTOUR
- SECURITY FENCE
- PORE WATER COLLECTION PIPE
- PORE WATER DRAIN
- APPROXIMATE WATER EDGE
- GAS VENTS (ORIGINAL 23; ONLY FOUR WERE GIVEN IDs)
- V-1-2 CUTOFF TRENCH GAS VENTS
- LANDFILL GAS CUTOFF TRENCH
- FLOW DIRECTION
- MW-14 MONITORING WELL
- RG-3 RIVER GAUGE STATION
- GW-2 LOCATION OF GAS MONITORING PROBES
- BH-2 TEMPORARY BOREHOLE LOCATION
- SV-B APPROXIMATE LOCATION OF STRESSED VEGETATION AREA REPAIRED DURING WEEK OF AUGUST 27, 2012
- SV-A APPROXIMATE LOCATION OF GEOMEMBRANE LINER PATCHED WITH NEW 40 MIL LLDPE TO REPAIR BREACH ON AUGUST 28, 2012

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM CADD DRAWING FILE DEVELOPED BY RMT, INC., ANN ARBOR, MICHIGAN (CADD FILE: L1630SU01.DWG AS-BUILT SURVEY; 8/21/00).
2. FINAL AS-BUILT CONTOUR ELEVATIONS ARE SHOWN AND ARE BASED ON A FIELD SURVEY BY ATWELL-HICKS, INC., DATED 9/27/00 WITH REVISIONS DATED 10/23/00, 12/21/01, 12/10/02, AND 7/24/03.
3. FINAL AS-BUILT CONTOUR ELEVATIONS OF SEDIMENTATION BASIN ARE BASED ON A FIELD SURVEY BY PREIN & NEWHOF, DATED 2/3/04.
4. PROPERTY BOUNDARY, AND FINAL AS-BUILT CONTOUR ELEVATIONS OF PARCEL C AND SURROUNDING AREAS BASED ON A FIELD SURVEY BY PREIN & NEWHOF, DATED 11/19/2010.
5. ELEVATIONS ARE BASED ON NGVD OF 1929 (MSL).
6. PROPERTY SURVEY PERFORMED BY WILKINS & WHEATON ENGINEERING CO., INC., ON 7/1/96.
7. TOPOGRAPHIC CONTOUR INTERVAL IS 1 FOOT.
8. LOCATIONS OF GW-5, GW-6, GW-7, GW-8, GW-9, AND GW-10 ARE BASED ON A FIELD SURVEY BY TERRA CONTRACTING LLC, DATED 9/23/05.
9. LOCATION OF GW-11 IS BASED ON A FIELD SURVEY BY TERRA CONTRACTING LLC, DATED 1/11/06.
10. LOCATIONS OF RG-6, V-4-4, V-4-5, AND V-4-6 ARE BASED ON A FIELD SURVEY BY TERRA CONTRACTING LLC, DATED 6/7/06.
11. LOCATIONS OF V-1-2 THROUGH V-1-6, V-2-3, V-2-10, AND V-2-18 ARE BASED ON MULTIPLE FIELD SURVEYS CONDUCTED BY TERRA CONTRACTING, LLC. IN APRIL 2008. GAS VENTS V-2-4 THROUGH V-2-9, AND V-2-11 THROUGH V-2-17 ARE NOT SHOWN FOR CLARITY PURPOSES (THESE VENTS ARE LOCATED ALONG TRENCH C).
12. LOCATION OF GW-12 IS APPROXIMATE.
13. LOCATIONS OF GW-13 THROUGH GW-17 BASED ON FIELD SURVEY CONDUCTED BY PREIN & NEWHOF ON 11/1/11.
14. LOCATION OF SHEETPILE WALL AND A PORTION OF THE MONITORING WELLS ARE BASED ON A FIELD SURVEY BY ATWELL-HICKS, INC. DATED 9/27/00.
15. PARCELS 1, 2, 10, A, B, AND THE TRIANGLE PARCEL ARE OWNED BY GEORGIA-PACIFIC.
16. GEORGIA-PACIFIC PURCHASED THE "TRIANGLE PARCEL" FROM THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) IN EARLY 2006.
17. GEORGIA-PACIFIC PURCHASED PARCELS A (PREVIOUSLY OWNED BY MDOT) AND B (PREVIOUSLY OWNED BY THE CITY OF KALAMAZOO) IN JUNE 2008, WHICH ARE LOCATED IN THE PORTION OF THE KING HIGHWAY (M-96) RIGHT-OF-WAY THAT IS ENCLOSED BY THE KING HIGHWAY LANDFILL SITE BOUNDARY FENCE.
18. STRESSED VEGETATION AREAS SV-C, AND SV-E THROUGH SV-G ORIGINALLY IDENTIFIED IN THE JUNE 27, 2012 STRESSED VEGETATION SAMPLING RESULTS AND WORK PLAN WERE NOT REPAIRED DURING THE WEEK OF AUGUST 27, 2012 AS THE GRASS GROWTH IN THESE AREAS HAD IMPROVED SINCE THEIR ORIGINAL DISCOVERY DUE TO RECENT RAINFALL AND DID NOT REQUIRE TOPSOIL APPLICATION

ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE

STRESSED VEGETATION AND GEOMEMBRANE LINER REPAIR ACTIVITIES

CURRENT STATUS OF COMPLETED STRESSED VEGETATION AND GEOMEMBRANE LINER REPAIR

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FIGURE 1

CITY: SYRACUSE DIV/GROUP: ENVCAD DB: G. STOWELL L: POSENAUER L: FORAKER LD: PIC:D. COWIN PM: D. PENNIMAN TM: D. PENNIMAN LYR: ON=*; OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIVE\64583\300\300907\DWG\GEOMEMBRANE64583301.DWG LAYOUT: 1 SAVED: 9/10/2012 3:20 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: C-LB-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 9/10/2012 3:20 PM BY: FORAKER, LYDIA
XREFS: 64583X11 64583X00
IMAGES: PROJECTNAME: —